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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/780,903

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EXAMINER

PHAN, THANH S

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/780,903	Applicant(s) MARUYAMA ET AL.	
	Examiner THANH S. PHAN	Art Unit 2833	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 April 2008.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 10,12-15,18,19,21-23,26 and 28-30 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 10,12-15,18,19,21-23,26 and 28-30 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 10, 12-14, 18-23 and 28-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kasuga.

Regarding claims 10 and 18, Kasuga discloses a timing device [figure 32; column 17 line 5 – column 18, line 15], comprising: an antenna [852; figure 32; column 17, lines 59-61] being configured to receive electromagnetic waves; a communication unit [column 17, line 61] to communicate with an external communication device via the antenna, the communication unit having a receiving unit [853] receiving time information at a specific cycle from the outside via the antenna [852], and a current time counter unit [831] sequentially updating the current time information using the time corresponding to the time information received by the receiving unit as a reference; and a drive unit [ultrasonic motor 832]; and a time display unit [column 16, lines 54-57]

displaying time information, the mechanical structure [column 16, lines 54-57] displaying the time information on the time display unit on the basis of the current time information from the current time counter unit, the time display unit being operable while the electromagnetic waves are being received.

In this particular embodiment [figure 32], Kasuga does not explicitly disclose that the drive unit having a piezoelectric actuator that oscillates according to a signal from the communication unit, and a mechanical structure designed to be driven by the piezoelectric actuator and provided with a time display unit for displaying time information.

In another embodiment [figure 25; column 17, lines 11-31]; Kasuga discloses wherein the drive unit having a piezoelectric actuator that oscillates according to a signal from the communication unit, and a mechanical structure designed to be driven by the piezoelectric actuator and provided with a time display unit for displaying time information.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the drive unit as suggested in the embodiment of figure 25 with the embodiment of figure 32 to the purpose of displays the time accurately.

Regarding claim 12, Kasuga discloses wherein the mechanical structure further has a rotor [rotation member of motor 832]; and the piezoelectric actuator is configured so as to drive rotatably the rotor by elliptical movement resulting from a combination of longitudinal oscillation and curved oscillation [column 17, lines 45-56].

Regarding claim 13, Kasuga discloses wherein the piezoelectric actuator comprises an oscillating plate having a plate-shaped piezoelectric element [322] and a reinforcing plate [323] stacked on the piezoelectric element, a contact section [column 17, lines 21-23] provided to the longitudinal tip of the oscillating plate, a support member [326], and a holding section [shown in figure 25] to hold the oscillating plate on the support member; and the contact section is disposed at a location in which a rotor of the mechanical structure is driven by displacement resulting from the oscillation of the piezoelectric element [column 17, lines 12-44].

Regarding claim 14, Kasuga discloses wherein the time display unit comprises pointers [column 16, lines 54-57] for displaying time information and a pointer driving actuator drive the pointers and as illustrated in figure 32, wherein the antenna is configured to permit proper functionalities of the timepiece device except for explicitly describe that the antenna is disposed at a location in which the positive projection of the antenna on a plane perpendicular to the thickness direction of the timing device does not overlap the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction.

It is old and well known in the art that the displacement of the components within the timepiece need to meet the specifications of the of the timepiece device to allow proper time displaying. It also taken that both the concept and the advantages for displaying the time accurately which include the antenna in a specific configuration are well known and expected in the art.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to have the antenna is disposed at a location in which the positive projection of the antenna on a plane perpendicular to the thickness direction of the timing device does not overlap the positive projection of the pointer driving piezoelectric actuator on the plane, and is also disposed to be separated by a specific distance in a direction perpendicular to the thickness direction to facilitate proper time telling functions without interfering other components.

Regarding claims 19-21, the method steps are necessitated by the apparatus structures as disclosed above by Kasuga.

Regarding claims 22 and 23, in this particular embodiment [figure 25 and 32] Kasuga disclose the timing device as claimed except for explicitly mentioning wherein the device further comprising an electric power source to provide energy necessary for the operation of the timing device.

In the embodiment of figure 9, Kasuga discloses wherein the device comprising an electric power source [201] that is electrically connected to the operational component of the timepiece.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use a power source as suggested by the embodiment of figure 9 with the embodiment of figure 25 to facilitate system operations.

Regarding claims 28-30, Kasuga discloses the claimed invention except for the specified LF wave standards. It would have been obvious to one of ordinary skill in the art at the time of the invention was made to modify the device of Kasuga for the

compatibility of the specified standards to achieve the predictable result of receiving electronic waves and/or signals.

3. Claim 26 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kasuga in view of Nagasaka [US 6,603,236].

Regarding claim 26, Kasuga discloses a timing device [figures 25 and 32; column 17, line 5- column 18, line 15], comprising an antenna [852; figure 32; column 17, lines 59-61]; a communication unit [853] being configured to communicate with an external communication device via the antenna and to send signals to a piezoelectric actuator [323]; and a mechanical structure having a rotor, the piezoelectric actuator, a time display unit being driven by the piezoelectric actuator and displaying time information, and an analog display device having analog pointers to display physical quantities, the piezoelectric actuator being supplied with the electric energy from the storage unit, the piezoelectric actuator being configured to oscillate according to a signal from the communication unit, the piezoelectric actuator having, an oscillating plate having a plate-shaped piezoelectric element and a reinforcing plate stacked on the piezoelectric element, a contact section being provided on a longitudinal tip of the oscillating plate, a support member, and a holding section being configured to hold the oscillating plate on the support member [see claims 10-13 above].

Kasuga discloses substantially the claimed invention except for a power source for providing electric power for the device except for specifying that the power source comprising a generator unit being provided with a generating coil, the generator unit

being designed to convert kinetic energy into electric energy by utilizing electromagnetic induction a storage unit being configured to store electric energy.

Nagasaka discloses a timepiece wherein electric energy necessary to drive the wrist watch is generated by the movement of an arm and accumulated in a capacitor and an electronic circuit is driven by the electric energy. In the wrist watch to which the generator is assembled, the power of a rotary movement weight is transmitted to the generator through a power transmission mechanism composed of a speed increasing train wheel, and electric power is generated by causing an electromagnetic inducing action on a coil due to the change of a magnetic field which is generated by the rotation of the rotor.

Since Kasuga and Nagasaka are both from the same field of endeavor, the purpose disclosed by Nagasaka would have been recognized in the pertinent art of Kasuga.

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to use the power generation design of Nagasaka with the device of Kasuga for the purpose of providing energy without replacement of the power source.

Response to Arguments

4. Applicant's arguments filed 04/10/08 have been fully considered but they are not persuasive.

5. On page 9 of the REMARKS, the applicant argues that "Applicants respectfully believe that rejections based on the assumption that Kasuga discloses a radio controlled timepiece in Fig. 32 are not proper.", and that Kasuga does not specifically disclose that the received signal is for updating the current time/time information. The examiner disagrees; as disclosed and acknowledged by the applicant on page 9, Kasuga teaches that Fig. 32 is a block diagram of the embodiment of the novel pocket bell, pager, mobile telephone, and alarm. As illustrated in figure 32, the current time unit 831 is connected to the receiving unit 853 via the data comparing circuit 855, the external signal decision circuit 856 and the output pulse-selecting circuit 857, therefore the current time unit has the capability of receiving external signal via the receiving unit. The received signals is amplified by a receiver circuit, and converted into other form. Which are references in updating the current time as illustrated in the figure.

6. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F. 2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F. 2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

Conclusion

7. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh S. Phan whose telephone number is 571-272-2109. The examiner can normally be reached on M-F 9:00-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Renee Luebke can be reached on 571-272-2009. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2833

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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